Chan, Suilin

From: Prunier, Denise (DEC) <denise.prunier@dec.ny.gov>
Sent: Friday, May 24, 2019 2:00 PM
To: Petriman, Viorica
Cc: Potter, Benjamin J (DEC); Chan, Suilin; Cronin, Michael P (DEC)
Subject: RE: Clarifications on the Newly Added Permit Conditions with NESHAP 3E Requirements

1. Regarding the responses to the 2 questions I have included in my original email, I will have to get back to you next week, since I may need to have a little conversation with Hans about them.

   Ok

2. Conditions 5-43 and 5-53 which establish an emision limit of 28 lb/hr of SO2 for each of the 2 kilns, and Conditions 5-44 and 5-55 which establish an emission limit of 22.4 lb/hr of NOx for each of the 2 kilns:

a. The "Reference Test Method" field of each of these 4 conditions reads: "40 CFR 60" but doesn't provide the EPA Test Method that should be employed. The EPA Test Methods should be provided;

   Done

b. The "Averaging Method" field for these 4 conditions reads "Averaging Method as per Reference Test Method Indicated". First, there is no test method indicated; Second, even if the test method would be specified, test methods do not prescribe the averaging period or method (i.e., the period over which actual data gathered or recorded through measurement techniques such as CEMS or stack tests is averaged to verify compliance with a specific emission limit included in the permit). The averaging methods or periods are specified by the applicable federal or state regulations ; In general, if there are no federal or state regulations applicable to a certain pollutant, which would specify the averaging period, the averaging period is established by the permitting authorities during the permitting process. The averaging period for SO2 and NOx emission limits should be specified;

   Done

3. Condition 6-21 that cites to 6 NYCRR 231-11.2 (c) and refers to the new source review reasonable possibility requirements for modifications to existing major sources (either major PSD or Nonattainment NSR sources):

- I understand that this condition will, correctly, be labeled as an "applicable federal requirement" instead of "applicable state requirement";

  Done

- It's still unclear why this condition was added, however, for the sake of moving forward with this permit, as we discussed yesterday with Ben, we do not oppose retaining this condition in the permit, provided that the PRR will be revised to include a discussion regarding the rationale for including this reasonable possibility provision;

  Done

- As indicated by Ben yesterday, Norlite it's not a major PSD source because it's PTE is below the applicable major source threshold of 250 tpy. Thus, since 6 NYCRR 231-11.2 (c) applies to modifications to existing major sources, 6 NYCRR 231-11.2 (c) would not be applicable to any modification that takes place at Norlite, since the source it's not an existing major source (at least under PSD regulations);

  For the purposes of PSD, the facility is an existing non-major facility. Therefore, the requirements of 231-11.2(c) are not applicable to any PSD contaminants.

  6 NYCRR Part 231-11.2(c) applies to all section of the rule – attainment as well as non-attainment. Norlite is major for the purposes of non-attainment NSR, so the condition applies. This condition requires the facility to monitor and report NOx emissions resulting from the modification for a period of five years. Since the facility did not base NOx emissions on the emission sources potentials, this requirement will ensure that the modification was not subject to Subpart 231-6. After the five year period, any changes in emissions are assumed to not be associated with the modification and this monitoring and reporting requirement no longer applies.

- However, Norlite is an existing major source under Non-Attainment NSR because it has a PTE of NOx of 490,600 lb/yr (196 tpy) (*See* PR at page 9 of 55), which is greater than the major facility threshold for ozone non-attainment areas and ozone transport region of 100 tpy. Norlite is located in a marginal non-attainment area (*See* PRR at page 2 of 55). In this case, since the facility is already an existing major source, the reasonable possibility requirements of 231-11.2 (c) would apply provided that are increases in NOx emissions associated with the proposed modification (replacement of the wet scrubbers with the more efficient dry scrubbers).

  For the purposes of nonattainment NSR, the facility is an existing major facility. However, the facility used potential emissions from the modification for VOC and these requirements do not apply to VOC. As a result, the requirements of 231-11.2(c) are only applicable to emissions of NOx.

- The discussion in the PRR should (1) clearly indicate whether Norlite is an existing major source under the PSD or NNNR regulations; and (2) the regulated NSR contaminant for which the facility is required to monitor actual emissions;

  This what put in the PRR:

  For the purposes of nonattainment NSR, the facility is an existing major facility. This condition requires the facility to monitor and report NOx emissions resulting from the modification for a period of five years. Since the facility did not base NOx emissions on the emission sources potentials, this requirement will ensure that the modification was not subject to Subpart 231-6. After the five year period, any changes in emissions are assumed to not be associated with the modification and this monitoring and reporting requirement no longer applies. However, the facility used potential emissions from the modification for VOC and these requirements do not apply to VOC. As a result, the requirements of 231-11.2(c) are only applicable to emissions of NOx.

From: Petriman, Viorica <Petriman.Viorica@epa.gov>
Sent: Thursday, May 23, 2019 3:44 PM
To: Prunier, Denise (DEC) <denise.prunier@dec.ny.gov>
Cc: Potter, Benjamin J (DEC) <benjamin.potter@dec.ny.gov>; Chan, Suilin <Chan.Suilin@epa.gov>; Cronin, Michael P

(DEC) <michael.cronin@dec.ny.gov>
Subject: RE: Clarifications on the Newly Added Permit Conditions with NESHAP 3E Requirements

Denise,

Thank you for the responses.

1. Regarding the responses to the 2 questions I have included in my original email, I will have to get back to you next week, since I may need to have a little conversation with Hans about them.

2. Conditions 5-43 and 5-53 which establish an emision limit of 28 lb/hr of SO2 for each of the 2 kilns, and Conditions 5-44 and 5-55 which establish an emission limit of 22.4 lb/hr of NOx for each of the 2 kilns:

a. The "Reference Test Method" field of each of these 4 conditions reads: "40 CFR 60" but doesn't provide the EPA Test Method that should be employed. The EPA Test Methods should be provided;

b. The "Averaging Method" field for these 4 conditions reads "Averaging Method as per Reference Test Method Indicated". First, there is no test method indicated; Second, even if the test method would be specified, test methods do not prescribe the averaging period or method (i.e., the period over which actual data gathered or recorded through measurement techniques such as CEMS or stack tests is averaged to verify compliance with a specific emission limit included in the permit). The averaging methods or periods are specified by the applicable federal or state regulations ; In general, if there are no federal or state regulations applicable to a certain pollutant, which would specify the averaging period, the averaging period is established by the permitting authorities during the permitting process. The averaging period for SO2 and NOx emission limits should be specified;

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- I understand that this condition will, correctly, be labeled as an "applicable federal requirement" instead of "applicable state requirement";

- It's still unclear why this condition was added, however, for the sake of moving forward with this permit, as we discussed yesterday with Ben, we do not oppose retaining this condition in the permit, provided that the PRR will be revised to include a discussion regarding the rationale for including this reasonable possibility provision;

- As indicated by Ben yesterday, Norlite it's not a major PSD source because it's PTE is below the applicable major source threshold of 250 tpy. Thus, since 6 NYCRR 231-11.2 (c) applies to modifications to existing major sources, 6 NYCRR 231-11.2 (c) would not be applicable to any modification that takes place at Norlite, since the source it's not an existing major source (at least under PSD regulations);

- However, Norlite is an existing major source under Non-Attainment NSR because it has a PTE of NOx of 490,600 lb/yr (196 tpy) (*See* PR at page 9 of 55), which is greater than the major facility threshold for ozone non-attainment areas and ozone transport region of 100 tpy. Norlite is located in a marginal non-attainment area (*See* PRR at page 2 of 55). In this case, since the facility is already an existing major

source, the reasonable possibility requirements of 231-11.2 (c) would apply provided that are increases in NOx emissions associated with the proposed modification (replacement of the wet scrubbers with the more efficient dry scrubbers).

- The discussion in the PRR should (1) clearly indicate whether Norlite is an existing major source under the PSD or NNNR regulations; and (2) the regulated NSR contaminant for which the facility is required to monitor actual emissions;

Please let me know if you have any questions about this email.

Viorica Petriman
Environmental Engineer
US EPA–Region 2
Air & Radiation Division
Permitting Section
212-637-4021

From: Prunier, Denise (DEC) <denise.prunier@dec.ny.gov>
Sent: Thursday, May 23, 2019 11:31 AM
To: Petriman, Viorica <Petriman.Viorica@epa.gov>
Cc: Cronin, Michael P (DEC) <michael.cronin@dec.ny.gov>; Wade, Eric (DEC) <eric.wade@dec.ny.gov>; Schmitt, Victoria M (DEC) <victoria.schmitt@dec.ny.gov>; Potter, Benjamin J (DEC) <benjamin.potter@dec.ny.gov>
Subject: RE: Clarifications on the Newly Added Permit Conditions with NESHAP 3E Requirements

Viorica,

Response to email questions:

1. For Condition 6-2, please provide:

   a. The rationale for allowing the facility a maximum of total the 3,600 non - consecutive hours of hazardous waste burning for the purposes of commissioning, pre - testing and performance testing following the proposed design changes and until the time a NOC is submitted to the Department.

   The following is excerpted from the Department's response to Norlite's request for more time operating the kilns, post-construction, while feeding hazardous waste.

   The Department has received and reviewed the recent revised petition from Norlite requesting to be allowed to burn hazardous waste for a maximum of 180 days following the design changes as part of Project Delta and prior to the submission of a Notice of Compliance (NOC). Although 40 CFR Part 63.1206(b)(5) restricts burning of hazardous waste (HW) to a maximum period of 30 days for the purposes of performance testing and pre-testing, additional time may be granted for these or other purposes if found warranted and approved by the Department.

   The following is granted by the Department:

60 days for commissioning by the vendor *– Utilizing liquid low-grade fuel (LLGF) during the 60 days of commissioning following the changes to the design is an approved requested time period in order for the vendor to test the system and work out any potential "bugs".*

30 days to conduct CPT following vendor commissioning – *As per the regulation, Norlite needs to notify the Department with a description of the design changes proposed and submit a CPT protocol for the kilns for approval by the Department 60 days prior to the changes. Norlite will be allowed to burn HW for a period of 30 days following the vendor commissioning period of 60 days after design changes have been made. The Department believes this period of time, along with the vendor commissioning period , is sufficient for Norlite to work out their own "bugs" prior to performance testing.*

60 days to submit NOC following testing *– The Department approves continued burning of HW after the performance testing and prior to submission of a NOC for a period not to exceed 60 days.*

Norlite is granted a maximum total of 3600 non-consecutive hours of HW burning for the purposes of commissioning, pre-testing and performance testing following the design changes proposed under Project Delta and up until the time a NOC is submitted to the Department. Norlite must operate the kilns within the following parameter limits at all times while burning HW:

Process and CEM Parameters
Maximum Total and Pumpable LLGF Feed Rate - 10.5 gpm
Maximum Shale Feed Rate - 24.3 tph
Minimum LLGF Atomization Pressure - 35.9 psi
Minimum Back End Temperature 866 °F
Maximum CO Concentration @ 7% O2 – 100 ppmvd

APC Parameters
Maximum GCT Exit Temperature – 400 °F
Maximum Baghouse Inlet Temperature – 400 °F
Minimum GSA Lime Feed Rate – 209 lb/hr
Minimum GSA Lime Carrier Fluid Flow Rate – 180 scfm

Constituent Feed Rates
Maximum Total Chlorine Feed Rate – 92.6 lb/hr (12-HRA)
Maximum Total SVM Feed Rate (Cd & Pb) – 5.79 lb/hr (12-HRA)
Maximum Total LVM Feed Rate (As + Be + Cr) – 4.0 lb/hr (12-HRA)
Maximum Total Pumpable LVM Feed Rate – 7.0 lb/hr (12-HRA)
Maximum Total Mercury Feed Rate – 0.007 lb/hr (12-HRA)

Also see the attached discussion between EPA and DEC on this matter providing further justification and rational for the decisions.

b. The basis for each of the interim operating parameters limit included under the allowance for 3,600 hours (i.e., manufacturer values, data from actual testing, etc.,)

The selected operating parameter limits are based on current operations at the facility (i.e. most recent current limits demonstrating compliance with the standards set forth in 40 CFR 63 Subpart EEE) with the exception of the maximum GCT exit temperature, minimum total lime feed rate and the minimum total lime carrier fluid flow rate which are new operating parameter limits to be established during future performance testing once the kilns have been upgraded. These limits were based on manufacturer recommendations and testing.

2. Condition 6 - 15 of the proposed permit establishes requirements for the dry scrubbers and cites to §63.1209(o)(4)(ii). This condition states that the facility must comply with a gas suspension adsorber minimum carrier fluid flowrate limit that is based "the limit on operations during the comprehensive performance test." Condition 6-16 of the proposed permit establishes requirements for the dry scrubbers and cites to §63.1209(o)(4)(ii). This condition states that the facility must comply with a minimum carrier fluid flowrate limit that is based on "the limit on operations during the comprehensive performance test." However, §63.1209(o)(4)(ii) requires the facility to establish a minimum carrier fluid (gas or liquid) flowrate or nozzle pressure drop based on the manufacturer's specifications. Since, Conditions 6-15 and 6-16 do not require that the minimum fluid flow rate be based on the manufacturer's specifications, please clarify whether the two conditions are consistent with NESHAP 3E.

   The current minimum carrier fluid flow rate (i.e. water supporting transport of lime to the baghouse) and the future minimum carrier fluid flow rate (i.e. water transporting lime into the gas suspension absorber) are based on the manufacturer's recommendations and verified during performance testing. It is worded that way because the facility must demonstrate compliance with the limit once every 5 years through testing.

Response to your phone questions:

1. EPA questioned why the Part 212 conditions are listed under the Federally Enforceable Conditions section of the permit.

   These will be moved to the State Only Enforceable Condition section of the permit.

2. EPA questioned the averaging methods under 212 for the destruction efficiency for SO_2 in Conditions 5-43/6-17 for kiln 1 and Conditions 5-54/6-19 for kiln 2.

   SO_2 is formed in the kilns from sulfur introduced in the shale feed and some sulfur contained in the fuel. The new dry air pollution control system (APCS) is designed to provide control of SO_2 emissions based on actual SO_2 stack gas concentrations and a control feedback system which manages sorbent injection rate. To remain a non-major PSD facility, Norlite accepted a stack gas permit limit of 28 lb/hr of SO_2 in a Department initiated modification issued on 12/27/2018 to be verified through performance testing once during the permit term of 5 years. Norlite completed a stack test in 2017 establishing a baseline period. Based on this stack test, a mass per ton of shale fed emission rate was developed and the actual quantity of shale processed during the baseline period was used to calculate baseline emissions. Fuel SO_2 contributions were also added to the baseline emissions. With no increase in shale feed upon upgrade of the kilns in 2019, no change in the SO_2 emission rate is expected.

   6 NYCRR Part 212-2.1 requires SO_2 emissions to be controlled to 91%. Conditions 6-17 and 6-19 require the facility to verify compliance with that requirement once per permit term. A gas suspension absorber utilizing lime to control emissions of SO_2 will be installed as part of the

APCS upgrade. A control feedback system is used to adjust the sorbent lime feed rate. A minimum lime feed rate of 268 lb/hr has been determined to control SO2 emissions to at least 91% for a corresponding shale feed rate of 24.3 tons/hr based on manufacturer test data. Lime and shale feed rate limits will help to ensure continuous compliance with the Part 212-2.1 SO_2 control requirement.

3. EPA questioned the decrease in the NO_x emission rate limitation from 28 lb/hr to 22.4 lb/hr.

   NO_x emissions are derived from nitrogen in combustion air and a minimal amount from nitrogen-bearing compounds in the fuel. Based on a reasonably available control technology (RACT) evaluation, Norlite accepted a stack gas permit limit of 28 lb/hr of NO_x in a Department initiated modification issued on 12/27/2018 to be verified through performance testing once during the permit term of 5 years. Following an assessment of NO_x for non-attainment areas in a New Source Review (NSR) evaluation performed as a result of the upcoming major modifications at the facility and to remain a non-major PSD facility, the stack gas permit limit was lowered to 22.4 lb/hr of NO_x. NOx has to be less than a 40 ton increase above past actual baseline emissions. The NO_x baseline emission rate was established using the emission rate used for the 2001 risk assessment evaluation which was similar, but slightly higher, to the emissions determined during the 2017 stack test. No change in NOx emissions are expected after the upgrade to the kilns in 2019.

4. EPA questioned the need for Condition #6-21 relating to 6 NYCRR Part 231.

   Condition 6-21 was added as a recordkeeping requirement to ensure the facility remains exempt from the requirements of NSR in subsequent years.

Let me know if you have further questions.

Denise Prunier, PE
Professional Engineer 1
Division of Air Resources

New York State Department of Environmental Conservation
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From: Petriman, Viorica <Petriman.Viorica@epa.gov>
Sent: Friday, May 17, 2019 12:11 PM
To: Prunier, Denise (DEC) <denise.prunier@dec.ny.gov>; Potter, Benjamin J (DEC) <benjamin.potter@dec.ny.gov>

Cc: Cronin, Michael P (DEC) <michael.cronin@dec.ny.gov>
Subject: Clarifications on the Newly Added Permit Conditions with NESHAP 3E Requirements

Hi Denise and Ben,

Please provide the following clarifying information regarding the newly added Conditions 6-2,6-15, and 6-16 of the proposed permit, which contain requirements from NESHAP 3E.

1. For Condition 6-2, please provide:

a. The rationale for allowing the facility a maximum of total the 3,600 non - consecutive hours of hazardous waste burning for the purposes of commissioning, pre - testing and performance testing following the proposed design changes and until the time a NOC is submitted to the Department.

b. The basis for each of the interim operating parameters limit included under the allowance for 3,600 hours (i.e., manufacturer values, data from actual testing, etc.,)

2. Condition 6 - 15 of the proposed permit establishes requirements for the dry scrubbers and cites to §63.1209(o)(4)(ii). This condition states that the facility must comply with a gas suspension adsorber minimum carrier fluid flowrate limit that is based "the limit on operations during the comprehensive performance test." Condition 6-16 of the proposed permit establishes requirements for the dry scrubbers and cites to §63.1209(o)(4)(ii). This condition states that the facility must comply with a minimum carrier fluid flowrate limit that is based on "the limit on operations during the comprehensive performance test." However, §63.1209(o)(4)(ii) requires the facility to establish a minimum carrier fluid (gas or liquid) flowrate or nozzle pressure drop based on the manufacturer's specifications. Since, Conditions 6-15 and 6-16 do not require that the minimum fluid flow rate be based on the manufacturer's specifications, please clarify whether the two conditions are consistent with NESHAP 3E.

Thank you,

Viorica Petriman
Environmental Engineer
US EPA–Region 2
Air & Radiation Division
Permitting Section
212-637-4021

Chan, Suilin

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Cc: 'Potter, Benjamin J (DEC)'; Chan, Suilin; Cronin, Michael P (DEC)
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Viorica Petriman
Environmental Engineer
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6 NYCRR Part 212-2.1 requires SO_2 emissions to be controlled to 91%. Conditions 6-17 and 6-19 require the facility to verify compliance with that requirement once per permit term. A gas suspension absorber utilizing lime to control emissions of SO_2 will be installed as part of the APCS upgrade. A control feedback system is used to adjust the sorbent lime feed rate. A minimum lime feed rate of 268 lb/hr has been determined to control SO2 emissions to at least 91% for a corresponding shale feed rate of 24.3 tons/hr based on manufacturer test data. Lime and shale feed rate limits will help to ensure continuous compliance with the Part 212-2.1 SO_2 control requirement.

3. EPA questioned the decrease in the NO_x emission rate limitation from 28 lb/hr to 22.4 lb/hr.

   NO_x emissions are derived from nitrogen in combustion air and a minimal amount from nitrogen-bearing compounds in the fuel. Based on a reasonably available control technology (RACT) evaluation, Norlite accepted a stack gas permit limit of 28 lb/hr of NO_x in a Department initiated modification issued on 12/27/2018 to be verified through performance testing once during the permit term of 5 years. Following an assessment of NO_x for non-attainment areas in a New Source Review (NSR) evaluation performed as a result of the upcoming major modifications at the facility and to remain a non-major PSD facility, the stack gas permit limit was lowered to 22.4 lb/hr of NO_x. NOx has to be less than a 40 ton increase above past actual baseline emissions. The NO_x baseline emission rate was established using the emission rate used for the 2001 risk assessment evaluation which was similar, but slightly higher, to the emissions determined during the 2017 stack test. No change in NOx emissions are expected after the upgrade to the kilns in 2019.

4. EPA questioned the need for Condition #6-21 relating to 6 NYCRR Part 231.

   Condition 6-21 was added as a recordkeeping requirement to ensure the facility remains exempt from the requirements of NSR in subsequent years.

Let me know if you have further questions.

Denise Prunier, PE
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Cc: Cronin, Michael P (DEC) <michael.cronin@dec.ny.gov>
Subject: Clarifications on the Newly Added Permit Conditions with NESHAP 3E Requirements

Hi Denise and Ben,

Please provide the following clarifying information regarding the newly added Conditions 6-2,6-15, and 6-16 of the proposed permit, which contain requirements from NESHAP 3E.

1. For Condition 6-2, please provide:

a. The rationale for allowing the facility a maximum of total the 3,600 non - consecutive hours of hazardous waste burning for the purposes of commissioning, pre - testing and performance testing following the proposed design changes and until the time a NOC is submitted to the Department.

b. The basis for each of the interim operating parameters limit included under the allowance for 3,600 hours (i.e., manufacturer values, data from actual testing, etc.,)

2. Condition 6 - 15 of the proposed permit establishes requirements for the dry scrubbers and cites to §63.1209(o)(4)(ii). This condition states that the facility must comply with a gas suspension adsorber minimum carrier fluid flowrate limit that is based "the limit on operations during the comprehensive performance test." Condition 6-16 of the proposed permit establishes requirements for the dry scrubbers and cites to §63.1209(o)(4)(ii). This condition states that the facility must comply with a minimum carrier fluid flowrate limit that is based on "the limit on operations during the comprehensive performance test." However, §63.1209(o)(4)(ii) requires the facility to establish a minimum carrier fluid (gas or liquid) flowrate or nozzle pressure drop based on the manufacturer's specifications. Since, Conditions 6-15 and 6-16 do not require that the minimum fluid flow rate be based on the manufacturer's specifications, please clarify whether the two conditions are consistent with NESHAP 3E.

Thank you,

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Permitting Section
212-637-4021